

## REMARKS

In reply to the Office Action, Applicant has amended claim 2 to better recite the subject matter of the invention and canceled claim 3, without prejudice or disclaimer of the subject matter thereof. Therefore, claims 2 and 4-7 are currently pending.

In the Office Action, the Examiner rejected claims 2-7 under 35 U.S.C. § 103(a) as unpatentable over Ikeda (U.S. Pat. No. 5,593,741) in view of Hazani (U.S. Pat. No. 5,677,867). Applicant has canceled claim 3, rendering the rejection of this claim moot. Applicant respectfully traverses the rejection of claims 2 and 4-7 for the following reasons.

A *prima facie* case of obviousness has not been made by the Examiner.

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. See M.P.E.P. §2143 (8<sup>th</sup> ed. 2001). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. See id. Third, a reasonable expectation of success must exist that the proposed modification will work for the intended purpose. See id. Moreover, each of these requirements must be found in the prior art, and not be based on Applicant's disclosure. See id.

Claim 2, as now amended, recites a method for manufacturing an interlayer dielectric layer comprising setting an active matrix provided with a substrate and interconnections formed on the substrate in a chamber, spraying a silicon source material and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) in a gaseous state on the active matrix at a

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temperature ranging from approximately -20 °C to approximately 600 °C, and forming the interlayer dielectric layer on the active matrix by a condensation reaction of the silicon source material and the H<sub>2</sub>O<sub>2</sub> without performing a post thermal treatment, wherein the silicon source material includes a tetra-ethyl-ortho-silicate (TEOS) or a modified TEOS which is substituted for the TEOS by substituting one of four C<sub>2</sub>H<sub>5</sub>OH groups in the TEOS with a group of CH<sub>3</sub> or F.

In the pending Office Action, the Examiner stated that "Ikeda discloses a semiconductor process substantially as claimed" and asked Applicant to "see Figs. 1-17 where Ikeda teaches a method for manufacturing a interlayer dielectric layer, the method comprising steps of: b) spraying a silicon source material and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) in a gaseous state on an active matrix at a temperature ranging from approximately -20 °C to approximately 600 [sic] °C; and c) forming the interlayer dielectric layer on the active matrix by a condensation reaction of the silicon source material and the H<sub>2</sub>O<sub>2</sub> without performing a post thermal treatment, wherein the silicon source material includes a tetra-ethyl-ortho-silicate (TEOS)." (Office Action, page 2) Applicant, however, was unable to find the disclosure of these steps in Figs. 1-17. For example, the Applicant was unable to find anywhere in Ikeda the teaching or suggestion of spraying a silicon source material and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) in a gaseous state on an active matrix at a temperature ranging from approximately -20° C to approximately 600° C and forming an interlayer dielectric layer on the active matrix by a condensation reaction of the silicon source material and the H<sub>2</sub>O<sub>2</sub> without performing a post thermal treatment.

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Further, Hazani neither suggests nor provides motivation to modify Ikeda to spray a silicon source material and hydrogen peroxide ( $H_2O_2$ ) in a gaseous state on an active matrix at a temperature ranging from approximately  $-20^{\circ}C$  to approximately  $600^{\circ}C$  and form an interlayer dielectric layer on the active matrix by a condensation reaction of the silicon source material and the  $H_2O_2$  without performing a post thermal treatment.

For at least the reasons stated above, Applicant submits that neither Ikeda nor Hazani, whether taken alone or in combination, discloses or suggests all of the limitations recited in claim 2. Moreover, Applicant respectfully submits that the Examiner neglected to show the existence of any reasonable probability of success in modifying Ikeda and Hazani to somehow result in the claimed invention. Yet further, neither Ikeda nor Hazani, whether taken alone or in combination, discloses or suggests the silicon source material including a modified TEOS which is substituted for the TEOS by substituting one of four  $C_2H_5OH$  groups in the TEOS with a group of  $CH_3$  or  $F$ , as recited in claim 2, as now amended. Therefore, Applicant respectfully submits that the Examiner withdraw the rejection of claim 2 under 35 U.S.C. § 103(a) and allow claim 2, as amended herewith.

Should the Examiner continue to maintain that claim 2 is unpatentable under 35 U.S.C. § 103(a) over Ikeda in view of Hazani, Applicant respectfully requests the Examiner to 1) more particularly point out in a non-final Office Action where in Ikeda all the limitations recited in claim 2 that the Examiner referred to are disclosed, as proposed to be modified by the teachings of Hazani; and 2) explain in a non-final Office Action how the Examiner's obviousness rationale could be found in the prior art —

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rather than a hindsight reconstruction of Applicant's own disclosure, so that Applicant may have the opportunity to reply completely.

Claims 4-7 each depend on claim 2. For at least the reasons given above with respect to claim 2, Applicant respectfully submits that claims 4-7 are also patentable and the rejection of claims 4-7 under 35 U.S.C. § 103(a) be withdrawn.

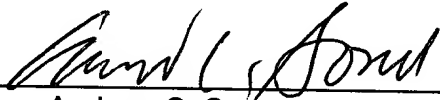
In view of the foregoing remarks, Applicant respectfully submits that claims 2 and 4-7 define patentable subject matter, and that the application is in condition for allowance. Applicant respectfully requests the reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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